

CLAIMS

What is claimed is:

1. A bus controller card for use with a backplane having a bus controller slot

connected to a first bus and a second bus, comprising:

5 a first backplane connector adapted for connection to a selected one of the first
 bus and the second bus;

 a second backplane connector adapted for connection to the other one of the
 first bus and the second bus; and

 a first switchbox comprising a plurality of individual switches operationally
10 connected to said first backplane connector and said second backplane
 connector, wherein one of said switches controls bus addressing on
 said first bus and another one of said switches controls bus addressing
 on said second bus independent of the particular said backplane
 connector connected to each bus.

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2. The bus controller card of claim 1, wherein said plurality of individual switches are
DIP switches.

3. The bus controller card of claim 1, wherein the bus controller card further

20 comprises:

 a first host connector electrically connected to said first backplane connector
 along a first signal path, and

a second host connector electrically connected to said second backplane
connector along a second signal path,

wherein each said host connector and said switchbox are located on an end of
the bus controller card.

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4. The bus controller card of claim 3, further comprising:

a first terminator electrically connected to said first host connector, said first
terminator also electrically connected to one said individual switch in said first
switchbox, and

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a second terminator electrically connected to said second host connector, said
second terminator also electrically connected to a different said individual switch in
said first switchbox.

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5. The bus controller card of claim 1, further comprising a controller electrically
connected to said first switchbox, said first backplane connector and said second
backplane connector.

6. A bus controller system, comprising:

a backplane, comprising

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a first bus,

a second bus,

a first bus controller slot connected to said first bus and said second
bus, and

a second bus controller slot connected to said first bus and said second bus, and

two bus controller cards, each card received by one of said bus controller slots, each bus controller card comprising

5 a first backplane connector connected to one of said buses through said respective bus controller slot,

a second backplane connector connected to the other one of said buses through said respective bus controller slot, and

a first switchbox comprising a plurality of individual DIP switches

10 operationally connected to said first backplane connector and said second backplane connector, wherein one of said DIP switches controls bus addressing on said first bus and another one of said DIP switches controls bus addressing on said second bus independent of the particular said backplane connector connected to each bus.

15 7. The system of claim 6, wherein said bus controller cards are received in said bus controller slots in different orientations from one another.

20 8. The system of claim 6, wherein said DIP switches on both of said bus controller cards are set to the same positions where said bus controller cards are in a reference orientation.

9. The system of claim 6, wherein each bus controller card further comprises a controller electrically connected to said first switchbox, said first backplane connector and said second backplane connector.

5 10. The system of claim 9, wherein said controller is adapted to detect which said bus is connected to each said backplane connector.

11. The system of claim 9, wherein each bus controller card further comprises a second switchbox comprising a plurality of DIP switches, said second switchbox
10 electrically connected to said controller.

12. The system of claim 6, wherein each bus controller card further comprises a bridge electrically connecting the first bus to the second bus.

15 13. The system of claim 6, wherein each bus controller card further comprises:
a first host connector electrically connected to said first backplane connector along a first signal path, and
a second host connector electrically connected to said second backplane connector along a second signal path,
20 wherein said first host connector, said second host connector and said switchbox are located on an end of each said bus controller card.

14. The system of claim 13, wherein each bus controller card further comprises:

a first terminator electrically connected to said first host connector, said first terminator also electrically connected to one said individual switch in said first switchbox, and

5 a second terminator electrically connected to said second host connector, said second terminator also electrically connected to a different said individual switch in said first switchbox.

15. A method for configuring two bus controller cards for use with a first bus and a
10 second bus accessed via a backplane having a plurality of bus controller card slots, where each bus controller card includes at least two backplane connectors and a plurality of switches, each switch associated with a control signal, comprising:

placing the two bus controller cards in a reference orientation;

setting the switches on each bus controller card to the same positions; and

15 inserting each bus controller card into one of the bus controller slots on the backplane.

16. The method of claim 15, further comprising:

detecting a signal at one of the backplane connectors on each bus controller
20 card; and

determining based on said detected signal which bus is connected to each backplane connector on each bus controller card.

17. The method of claim 15, wherein said inserting further comprises orienting the bus controller cards in different directions from one another, said directions corresponding to the orientation of the bus controller slots.